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☐ **I: Q11130**. Reports Alpha-(1,3)-fucos...[gi:1730137]

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LOCUS Q11130 342 aa linear PRI 04-DEC-2007

DEFINITION Alpha-(1,3)-fucosyltransferase (Galactoside 3-L-fucosyltransferase) (Fucosyltransferase 7) (FucT-VII) (Selectin-ligand synthase).

ACCESSION Q11130

VERSION Q11130.1 GI:1730137

DBSOURCE swissprot: locus FUT7_HUMAN, accession [Q11130](#); class: standard.
extra accessions: Q6DK54
created: Oct 1, 1996.
sequence updated: Oct 1, 1996.
annotation updated: Dec 4, 2007.
xrefs: [X78031.1](#), [CAA54962.1](#), [U11282.1](#), [AA20468.1](#), [U08112.1](#), [AAA56869.1](#), [AB012668.1](#), [BAA32819.1](#), [AL807752.10](#), [CAI12771.1](#), [BC074746.2](#), [AAH74746.2](#), [BC086312.1](#), [AAH86312.1](#), [A54057](#)
xrefs (non-sequence databases): RefSeq: [NP_004470.1](#), UniGene: [Hs.457](#), Ensembl: [ENSG00000180549](#), GeneID: [2529](#), KEGG: [hsa:2529](#), H-InvDB: [HIX0034839](#), HGNC: [4018](#), MIM: [602030](#), PharmGKB: [PA28434](#), ArrayExpress: [Q11130](#), CleanEx: [HS_FUT7](#), GeneOnline: [ENSG00000180549](#), GO: [0005794](#), GO: [0016021](#), GO: [0046920](#), GO: [0042355](#), GO: [0006486](#), InterPro: [IPR001503](#), PANTHER: [PTHR11929](#), Pfam: [PF00852](#)

KEYWORDS Glycoprotein; Glycosyltransferase; Golgi apparatus; Membrane; Signal-anchor; Transferase; Transmembrane.

SOURCE Homo sapiens (human)

ORGANISM [Homo sapiens](#)
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Primates; Haplorhini; Catarrhini; Hominidae; Homo.

REFERENCE 1 (residues 1 to 342)

AUTHORS Natsuka, S., Gersten, K.M., Zenita, K., Kannagi, R. and Lowe, J.B.

TITLE Molecular cloning of a cDNA encoding a novel human leukocyte alpha-1,3-fucosyltransferase capable of synthesizing the sialyl Lewis x determinant

JOURNAL J. Biol. Chem. 269 (24), 16789-16794 (1994)

PUBMED 8207002

REMARK NUCLEOTIDE SEQUENCE [MRNA].
Erratum: [J Biol Chem 1994 Aug 12;269(32):20806]
2 (residues 1 to 342)

REFERENCE 2 (residues 1 to 342)

AUTHORS Natsuka, S., Gersten, K.M., Zenita, K., Kannagi, R. and Lowe, J.B.

TITLE Molecular cloning of a cDNA encoding a novel human leukocyte alpha-1,3-fucosyltransferase capable of synthesizing the sialyl Lewis x determinant

JOURNAL J. Biol. Chem. 269 (32), 20806 (1994)

PUBMED 8051184
 REMARK SEQUENCE REVISION.
 REFERENCE 3 (residues 1 to 342)
 AUTHORS Sasaki,K., Kurata,K., Funayama,K., Nagata,M., Watanabe,E., Ohta,S., Hanai,N. and Nishi,T.
 TITLE Expression cloning of a novel alpha 1,3-fucosyltransferase that is involved in biosynthesis of the sialyl Lewis x carbohydrate determinants in leukocytes
 JOURNAL J. Biol. Chem. 269 (20), 14730-14737 (1994)
 PUBMED 8182079
 REMARK NUCLEOTIDE SEQUENCE [MRNA].
 REFERENCE 4 (residues 1 to 342)
 AUTHORS Hiraiwa,N., Hiraiwa,M. and Kannagi,R.
 TITLE Direct Submission
 JOURNAL Submitted (??-MAR-1998)
 REMARK NUCLEOTIDE SEQUENCE.
 REFERENCE 5 (residues 1 to 342)
 AUTHORS Humphray,S.J., Oliver,K., Hunt,A.R., Plumb,R.W., Loveland,J.E., Howe,K.L., Andrews,T.D., Searle,S., Hunt,S.E., Scott,C.E., Jones,M.C., Ainscough,R., Almeida,J.P., Ambrose,K.D., Ashwell,R.I., Babbage,A.K., Babbage,S., Bagguley,C.L., Bailey,J., Banerjee,R., Barker,D.J., Barlow,K.P., Bates,K., Beasley,H., Beasley,O., Bird,C.P., Bray-Allen,S., Brown,A.J., Brown,J.Y., Burford,D., Burrill,W., Burton,J., Carder,C., Carter,M.P., Chapman,J.C., Chen,Y., Clarke,G., Clark,S.Y., Clee,C.M., Clegg,S., Collier,R.E., Corby,N., Crosier,M., Cummings,A.T., Davies,J., Dhani,P., Dunn,M., Dutta,I., Dyer,L.W., Earthrowl,M.E., Faulkner,L., Fleming,C.J., Frankish,A., Frankland,J.A., French,L., Fricker,D.G., Garner,P., Garnett,J., Ghori,J., Gilbert,J.G., Glison,C., Grafham,D.V., Gribble,S., Griffiths,C., Griffiths-Jones,S., Grocock,R., Guy,J., Hall,R.E., Hammond,S., Harley,J.L., Harrison,E.S., Hart,E.A., Heath,P.D., Henderson,C.D., Hopkins,B.L., Howard,P.J., Howden,P.J., Huckle,E., Johnson,C., Johnson,D., Joy,A.A., Kay,M., Keenan,S., Kershaw,J.K., Kimberley,A.M., King,A., Knights,A., Laird,G.K., Langford,C., Lawlor,S., Leongamornlert,D.A., Leversha,M., Lloyd,C., Lloyd,D.M., Lovell,J., Martin,S., Mashreghi-Mohammadi,M., Matthews,L., McLaren,S., McLay,K.E., McMurray,A., Milne,S., Nickerson,T., Nisbett,J., Nordsiek,G., Pearce,A.V., Peck,A.I., Porter,K.M., Pandian,R., Pelan,S., Phillimore,B., Povey,S., Ramsey,Y., Rand,V., Scharfe,M., Sehra,H.K., Shownkeen,R., Sims,S.K., Skuce,C.D., Smith,M., Steward,C.A., Swarbreck,D., Sycamore,N., Tester,J., Thorpe,A., Tracey,A., Tromans,A., Thomas,D.W., Wall,M., Wallis,J.M., West,A.P., Whitehead,S.L., Willey,D.L., Williams,S.A., Wilming,L., Wray,P.W., Young,L., Ashurst,J.L., Coulson,A., Blocker,H., Durbin,R., Sulston,J.E., Hubbard,T., Jackson,M.J., Bentley,D.R., Beck,S., Rogers,J. and Dunham,I.
 TITLE DNA sequence and analysis of human chromosome 9
 JOURNAL Nature 429 (6990), 369-374 (2004)
 PUBMED 15164053
 REMARK NUCLEOTIDE SEQUENCE [LARGE SCALE GENOMIC DNA].
 REFERENCE 6 (residues 1 to 342)
 AUTHORS Gerhard,D.S., Wagner,L., Feingold,E.A., Shenmen,C.M., Grouse,L.H., Schuler,G., Klein,S.L., Old,S., Rasooly,R., Good,P., Guyer,M., Peck,A.M., Derge,J.G., Lipman,D., Collins,F.S., Jang,W., Sherry,S., Feolo,M., Misquitta,L., Lee,E., Rotmistrovsky,K., Greenhut,S.F., Schaefer,C.F., Buetow,K., Bonner,T.I., Haussler,D., Kent,J., Kiechhaus,M., Purey,T., Brent,M., Prange,C., Schreiber,K., Shapiro,N., Bhat,N.K., Hopkins,R.F., Hsieh,F., Driscoll,T., Soares,M.B., Casavant,T.L., Scheetz,T.E., Brownstein,M.J.,

Uedin, T.B., Toshiyuki, S., Carninci, P., Piao, Y., Dudekula, D.B., Ko, M.S., Kawakami, K., Suzuki, Y., Sugano, S., Gruber, C.E., Smith, M.R., Simmons, B., Moore, T., Waterman, R., Johnson, S.L., Ruan, Y., Wei, C.L., Mathavan, S., Gunaratne, P.H., Wu, J., Garcia, A.M., Hulyk, S.W., Fuh, E., Yuan, Y., Sneed, A., Kowis, C., Hodgson, A., Muzny, D.M., McPherson, J., Gibbs, R.A., Fahey, J., Helton, E., Kettelman, M., Madan, A., Rodrigues, S., Sanchez, A., Whiting, M., Madari, A., Young, A.C., Wetherby, K.D., Granite, S.J., Kwong, P.N., Brinkley, C.P., Pearson, R.L., Bouffard, G.G., Blakesly, R.W., Green, E.D., Dickson, M.C., Rodriguez, A.C., Grimwood, J., Schmutz, J., Myers, R.M., Butterfield, Y.S., Griffith, M., Griffith, O.L., Krzywinski, M.I., Liao, N., Morin, R., Palmquist, D., Petrescu, A.S., Skalska, U., Smailus, D.E., Stott, J.M., Schnerch, A., Schein, J.E., Jones, S.J., Holt, R.A., Baross, A., Marra, M.A., Clifton, S., Makowski, K.A., Bosak, S. and Malek, J.

CONSTRM MGC Project Team

TITLE The status, quality, and expansion of the NIH full-length cDNA project: the Mammalian Gene Collection (MGC)

JOURNAL Genome Res. 14 (10B), 2121-2127 (2004)

PUBMED 15489334

REMARK NUCLEOTIDE SEQUENCE [LARGE SCALE MRNA].
TISSUE=Lung, and Mammary gland
Erratum: [Genome Res. 2006 Jun;16(6):804. Morrin, Ryan [corrected to Morin, Ryan]]

REFERENCE 7 (residues 1 to 342)

AUTHORS de Vries, T., Yen, T.Y., Joshi, R.K., Storm, J., van Den Eijnden, D.H., Knegtel, R.M., Bunschoten, H., Joziase, D.H. and Macher, B.A.

TITLE Neighboring cysteine residues in human fucosyltransferase VII are engaged in disulfide bridges, forming small loop structures

JOURNAL Glycobiology 11 (5), 423-432 (2001)

PUBMED 11425803

REMARK DISULFIDE BONDS.

COMMENT On Mar 15, 2005 this sequence version replaced gi:572373.
[FUNCTION] May catalyze alpha-1,3 glycosidic linkages involved in the expression of sialyl Lewis X antigens.
[CATALYTIC ACTIVITY] GDP-L-fucose + alpha-2,3-Neu-N-acetyl-1, 4-beta-D-galactosyl-N-acetyl-D-glucosaminyl-R = GDP + alpha-2,3-Neu-N-acetyl-1,4-beta-D-galactosyl-(alpha-1, 3-L-fucosyl)-N-acetyl-D-glucosaminyl-R.
[PATHWAY] Protein modification; protein glycosylation.
[SUBCELLULAR LOCATION] Golgi apparatus, Golgi stack membrane; Single-pass type II membrane protein. Note=Membrane-bound form in trans cisternae of Golgi.
[TISSUE SPECIFICITY] Leukocytic/myeloid lineage cells.
[SIMILARITY] Belongs to the glycosyltransferase 10 family.
[WEB RESOURCE] Name=GGDB; Note=GlycoGene database;
URL=<http://ggdb.muse.aist.go.jp/GGDB/index.jsp>.

FEATURES

source Location/Qualifiers
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/gene="FUT7"

Protein 1..342
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/product="Alpha-(1,3)-fucosyltransferase"
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Region 1..342
/gene="FUT7"

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/experiment="experimental evidence, no additional details
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Bond bond(211,214)
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/region_name="Conflict"
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121 mespshtbgl shlrqifnvw lryrrdsdif vpygrlephw gspplpaks rvaawvvnf  
181 qerqlrarly rqlaphlrvd vfgrangrpl casclvptva qyrfylsfen sqhrdyitek  
241 fwrnalvagt vpvvlgppra tyefvpada fvhvddfgsa relaafitgm nesryqrffa  
301 wrdlrlrvlf tdwrerfcia cdryphlprs qvyedlegwf qa
```

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